

Application No. 10/775,521
Amendment dated July 5, 2006
Reply to Non-Final Office Action of April 5, 2006

Amendments To the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): A switch coupled between a plurality of host units and a device
2 for communicating therebetween and comprising:
3 a) a first serial advanced technology attachment (ATA) port coupled to a first host
4 unit, said first port for causing access, to the device, by the first host unit [said
5 port including a first host];
6 b) a second serial ATA port coupled to a second host unit, said second port for
7 causing access to the device, by the second host unit;
8 c) a third parallel ATA port, coupled to a device, for causing access to the device, by
9 the first or second host units; and
10 d) an arbitration and control circuit, coupled to the first, second and third ports, for
11 selecting one of the first host or second host units to [be coupled to] concurrently
12 access the device, through the switch, by accepting commands, from either of the
13 first or second host units, at any given time, including when the device is not in an
14 idle state [whenever either of the host units sends commands for execution thereof
15 by the device].

1 Claim 2 (original): A switch as recited in claim 1 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 3 (original): A switch as recited in claim 2 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 4 (original): A switch as recited in claim 3 wherein said third parallel ATA port
2 includes a device task file.

1 Claim 5 (original): A switch as recited in claim 4 wherein said first, second and third ports
2 are level 4 ports.

1 Claim 6 (original): A switch as recited in claim 1 wherein said device is a storage unit.

1 Claim 7 (original): A switch as recited in claim 1 wherein said switch is employed in an
2 enterprise system.

1 Claim 8 (original): A switch as recited in claim 1 wherein said arbitration and control
2 circuit causes concurrent access of the device by the first and second host units.

1 Claim 9 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the device to the first or second host units
3 through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 10 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'identity drive response'.

1 Claim 11 (original): A switch as recited in claim 9 wherein the information is referred to as
2 'Tag'.

1 Claim 12 (original): A switch as recited in claim 1 wherein information, in the form of data,
2 commands or setup, is transferred from the first or second host units to the device
3 through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 13 (original): A switch as recited in claim 12 wherein the information is referred to
2 as 'Tag'.

1 Claim 14 (original): A switch as recited in claim 13 wherein the arbitration and control
2 circuit include a Tag/Active Mapping Circuit for mapping a host tag to a device tag
3 and inverse mapping for identifying a host.

1 Claim 15 (original): A switch as recited in claim 1 wherein either the first or the second
2 host sends a legacy queue command queued by the device.

1 Claim 16 (original): A switch as recited in claim 1 wherein either the first or the second
2 host sends a native queue command for execution thereof by the device.

1 Claim 17 (original): A switch as recited in claim 1 wherein the first, second and third ports
2 are level 3 ports and a Data frame information system (FIS) first-in-first-out (FIFO)
3 and an associated FIFO Control are coupled to the first, second and third ports and
4 located external thereto.

1 Claim 18 (currently amended): A switch comprising:

- 2 a. a first serial advanced technology attachment (ATA) port for connection to a
3 first host unit;
4 b. a second serial ATA port for connection to a second host unit;
5 c. a third parallel ATA port for connection to a device; and
6 d. an arbitration and control circuit, coupled to the first, second and third ports,
7 for selecting either the first host unit or the second host unit to [be coupled to]
8 concurrently access the device, through the switch, by accepting commands,
9 from either of the first or second host units, at any given time, including when
10 the device is not in an idle state [when either host units sends commands for
11 execution by the device,
12 wherein while one of the first or second host units is coupled to the device,
13 through the switch, the other one of the first or second host units sends ATA commands
14 to the switch for execution by the device].

1 Claim 19 (original): A switch as recited in claim 18 wherein the switch is a serial ATA
2 switch.

1 Claim 20 (original): A switch as recited in claim 18 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 21 (original): A switch as recited in claim 20 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 22 (original): A switch as recited in claim 21 wherein said third parallel ATA port
2 includes a device task file.

1 Claim 23 (original): A switch as recited in claim 18 wherein said device is a storage unit.

1 Claim 24 (original): A switch as recited in claim 18 wherein said switch is employed in an
2 enterprise system.

1 Claim 25 (original): A switch as recited in claim 18 wherein said arbitration circuit causes
2 concurrent access of the device by the first and second host units.

1 Claim 26 (original): A switch as recited in claim 18 wherein information, in the form of
2 data, commands or setup, is transferred from the device to the first or second host
3 units through the switch and the information is modified by the switch prior to being
4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 27 (original): A switch as recited in claim 26 wherein the information is referred to
2 as 'identity drive response'.

1 Claim 28 (original): A switch as recited in claim 26 wherein the information is referred to
2 as 'Tag'.

1 Claim 29 (original): A switch as recited in claim 18 wherein information, in the form of
2 data, commands or setup, is transferred from the first or second host units to the
3 device through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 30 (original): A switch as recited in claim 28 wherein the information is referred to
2 as 'Tag'.

Claim 31 (currently amended): A switch that is connectable to a first host unit, a second host
unit and a device via serial advanced technology attachment (ATA) links, said switch
comprising:

- 1 a. a first serial ATA port for connection to a first host unit;
- 2 b. a second serial ATA port for connection to a second host unit;
- 3 c. a third parallel ATA port for connection to a device;

4 d. an arbitration and control circuit, coupled to the first, second and third ports,
5 for selecting one of the first or second host units to [be coupled] concurrently
6 access [to] the device through the switch [when either the first or second host
7 units sends commands for execution by the device,
8 wherein while one of the first or second host units is coupled to the device, the
9 other one of the first or second host units sends ATA commands to the switch for
10 execution by the device] , by accepting commands, from either of the first or second
11 host units, at any given time, including when the device is not in an idle state.

1 Claim 32 (original): A switch as recited in claim 31 wherein the switch is a serial ATA
2 switch.

1 Claim 33 (original): A switch as recited in claim 31 wherein said first serial ATA port
2 includes a first host task file.

1 Claim 34 (original): A switch as recited in claim 33 wherein said second serial ATA port
2 includes a second host task file.

1 Claim 35 (original): A switch as recited in claim 34 wherein said third parallel ATA port
2 includes a device task file.

1 Claim 36 (original): A switch as recited in claim 31 wherein said device is a storage unit.

1 Claim 37 (original): A switch as recited in claim 31 wherein said switch is employed in an
2 enterprise system.

1 Claim 38 (original): A switch as recited in claim 31 wherein said arbitration and control
2 circuit causes concurrent access of the device by the first and second host units.

1 Claim 39 (original): A switch as recited in claim 31 wherein information, in the form of
2 data, commands or setup, is transferred from the device to the first or second host
3 units through the switch and the information is modified by the switch prior to being

4 received by the first or second host units such that modified information rather than
5 the information is received by the first or second host units.

1 Claim 40 (original): A switch as recited in claim 39 wherein the information is referred to
2 as 'identity drive response'.

1 Claim 41 (original): A switch as recited in claim 39 wherein the information is referred to
2 as 'Tag'.

1 Claim 42 (original): A switch as recited in claim 31 wherein information, in the form of
2 data, commands or setup, is transferred from the first or second host units to the
3 device through the switch and the information is modified by the switch prior to being
4 received by the device such that modified information rather than the information is
5 received by the device.

1 Claim 43 (original): A switch as recited in claim 42 wherein the information is referred to
2 as 'Tag'.